



18-045

**TITLE:** Consider/Discuss/Act on a Resolution Authorizing the City Manager to Execute a Contract with Birkhoff, Hendricks, & Carter, LLP to Provide Consulting Engineering Services for the Update of the WA4202 - Water Master Plan, WW4209 - Wastewater Master Plan and Utility Impact Fee Project and Authorizing Any Supplemental Agreements

**COUNCIL GOAL:** Operational Excellence

**MEETING DATE:** January 16, 2018

**DEPARTMENT:** Development Services/Engineering

**CONTACT:** Nick Ataie, PE, Engineering CIP Manager  
Paul Tucker, P.E., Senior Utility Engineer

**RECOMMENDED CITY COUNCIL ACTION:**

- Approval of Resolution.

**ITEM SUMMARY:**

- This Resolution authorizes the City Manager to execute a contract in the amount of \$474,470 as well as all required supplemental agreements thereto, with Birkhoff, Hendricks & Carter, L.L.P. to provide professional consulting engineering services for updates to the WA4202 - Water Master Plan, WW4209 - Wastewater Master Plan and Utility Impact Fee, for a total aggregate contract amount, inclusive of any supplemental agreements, not to exceed \$522,000.

**BACKGROUND INFORMATION:**

- As required by Chapter 395 of the Texas Local Government Code, the Planning Department will be updating the impact fees in 2018 as part of the Comprehensive Plan update.
- The water master plan and the wastewater master plan must both be updated to provide the information necessary to calculate the utility impact fees and to plan for future water and wastewater facilities.

- The project is being initiated at this time in order to perform the wastewater flow monitoring analysis during the spring of 2018 for a 60-day period to coincide with North Texas Municipal Water District (NTMWD) flow monitoring. It is anticipated NTMWD will deploy their flow meters in March 2018.
- Scope items include the following:
  - Water Demand Study - Calculate and evaluate the maximum daily, maximum hourly and minimum hourly water system demands based on the 2017 water use data and the upcoming 2018 water use data. Data will be obtained from the City for the months of July, August and September since they are typically the higher use months for water. Non-residential and residential water uses will be calculated to determine the design rates for water use.
  - Water Distribution System Master Plan - Update the current 2012 Water Distribution Master Plan hydraulic model to include the updated Future Land Use Plan (FLUP) per the updated Comprehensive Plan, and population projections for the 2018, 2028, and Buildout conditions. These models are used in the impact fee model and various water modeling efforts for the City.
  - Wastewater Master Plan - Update the current 2012 Wastewater Master Plan hydraulic model to include the updated Future Land Use Plan (FLUP) per the updated Comprehensive Plan, and population projections for the 2018, 2028, and Buildout conditions. These models are used in the impact fee model and various water modeling efforts for the City.
  - Update of Water and Wastewater Impact Fee Calculation.
  - Water Distribution Model and Wastewater Model Calibrations - Compare field data to the model results and make adjustments to the model to simulate the field data results.
  - Wastewater Flow Monitoring Analysis & Equipment - Deploy twenty-three (23) flow meters and four (4) rain gauges in collection system at major line locations to establish existing dry-weather and wet-weather basin flow patterns and unit hydrographs for inflow and infiltration.
  - Model Maintenance - Provide three years of water and wastewater model maintenance, as directed by the City, to allow for model continuity.
- Birkhoff, Hendricks, & Carter, LLP submitted a response to 15-36RFQ for Utility Design. They were one of five qualified firms shortlisted by City Council on October 20, 2015.
  - Birkhoff, Hendricks & Carter have extensive knowledge of the water and wastewater systems in McKinney and was the consultant that prepared the current water master plan and managed the utility portion of the last impact fee update.
- A proposal for the professional services for this project has been received from

Birkhoff, Hendricks & Carter, in the amount of \$474,470 to perform the engineering services. The proposed fee is separated into basic services of \$178,700 and \$295,770 in special services. Special services will be provided on an hourly basis, as needed during the design and construction. The following is a breakdown of the basic and special services items:

- Basic Services
  - Water Demand Analysis: \$13,700
  - Water Distribution System Master Plan: \$58,900
  - Wastewater Collection System Master Plan: \$49,600
  - Water & Wastewater Impact Fee: \$56,500
- Special Services
  - Water Distribution System Calibration: \$33,750
  - Wastewater Collection System Calibration: \$35,700
  - Wastewater Flow Monitoring Equipment and Analysis: \$171,670
  - Reproduction of Reports: \$3,500
  - Model Maintenance: \$51,150

**FINANCIAL SUMMARY:**

- This Resolution authorizes a contract with Birkhoff, Hendricks & Carter, L.L.P. for an amount not to exceed \$522,000.
- Funds are available in the Capital Improvements Program WA4202 (\$178,000) and WW4209 (\$344,000).
- With the approval of this item \$342,000 will remain in WA4202 and \$176,000 will remain in WW4209.

**BOARD OR COMMISSION RECOMMENDATION:**

- N/A

**SUPPORTING MATERIALS:**

[Resolution](#)